

WHAT IS CLAIM IS:

1. A Method of extracting a volatile natural substance from a biological material, wherein the biological material contains water, comprising the following steps:
 - a) introducing the biological material into a microwave chamber with the exclusion of solvent;
 - b) irradiating the biological material with microwaves until at least some of the natural substance is released from the biological material;
 - c) conveying the released natural substance from the microwave chamber into a condensation chamber by convection;
 - d) cooling the released natural substance until it condenses; and
 - e) conveying the released natural substance from the condensation chamber.
2. The method of claim 1, wherein the microwave chamber and the condensation chamber are parts of a closed system.
3. The method of claim 1, wherein the natural substance is a plant oil.
4. The method of claim 1, wherein in step b) the microwave irradiation is controlled in such a way that a temperature below 100°C prevails in the microwave chamber.
5. The method of claim 1, wherein in step b) the biological material is stirred for improved exposure.
6. The method of claim 1, wherein the microwave chamber has an obliquely arranged, rotatable receiving container for improved exposure of the biological material.

7. The method of claim 1, wherein the condensation chamber is separated from the microwave chamber by a partition which has an upwardly tapering form and has an air-permeable aperture in the upper region.
8. The method of claim 7, wherein the partition is made from plastics material or glass.
9. The method of claim 1, wherein heat is fed into a transition region between the microwave chamber and the condensation chamber to assist convection.
10. The method of claim 1, wherein the condensation chamber is cooled in the wall region.
11. The method of claim 1, wherein the condensation chamber is cooled by water cooling.
12. The method of claim 1, wherein the condensation chamber has the form of a vertically oriented cylinder.
13. The method according to claim 1, wherein the condensed natural substance is discharged from the condensation chamber in step e) using gravitational force.
14. The method of claim 1, wherein in step e) water discharged with the natural substance is fed to the microwave chamber.
15. The method of claim 14, wherein the discharged water is at least partially separated from the natural substance by an overflow device and is fed to the microwave chamber.
16. The method of claim 1, wherein during irradiation the biological material is present in an atmosphere with reduced pressure.

17. A method of extracting a volatile natural substance from a biological material, wherein the biological material contains water, comprising the following steps:

- a) introducing the biological material into a microwave chamber with exclusion of solvent;
- b) irradiating the biological material with microwaves until at least some of the natural substance is released from the biological material, wherein during irradiation the biological material is present in an atmosphere with reduced pressure;
- c) conveying the released natural substance from the microwave chamber into a condensation chamber;
- d) cooling the released natural substance until it condenses; and
- e) conveying the released natural substance from the condensation chamber.

18. A device for extracting a volatile natural substance from a biological material, comprising:

- a. a microwave oven with a microwave chamber for receiving the biological material; and
- b. a condensation chamber, wherein the condensation chamber is arranged above the microwave chamber, and is connected to the microwave chamber by a connecting channel.

19. The device of claim 18, wherein the microwave chamber and the condensation chamber form parts of a closed system.

20. The device of claim 18, wherein stirring means are provided for the microwave chamber for thorough mixing of introduced biological material.

21. The device of claim 20, wherein the microwave chamber has an obliquely arranged rotatable receiving container for biological material.

22. The device of claim 18, wherein the condensation chamber is separated from the microwave chamber by a partition which has an upwardly tapering form and has an air-permeable aperture in the upper region.
23. The device of claim 18, wherein the condensation chamber has the form of a vertically oriented cylinder.
24. The device of claim 18, wherein the connecting channel has the form of a vertically oriented cylinder.
25. The device of claim 18, wherein the connecting channel has a heating means.
26. The device according to claim 18, wherein the condensation chamber has a cooling means.
27. The device of claim 18, wherein the condensation chamber has water cooling.
28. The device of claim 18, wherein the condensation chamber in its base region has an outlet for conveying away condensed the natural substance.
29. The device of claim 28, wherein the outlet is connected to a receiving vessel for receiving condensed natural substance.
30. The device of claim 29, wherein the outlet is connected to an overflow device for separating the natural substance and water.
31. The device of claim 30, wherein the overflow device is connected to the connecting channel in such a way that overflowing water can flow into the microwave chamber owing to gravitational force.